



How To Safely Clean a Pool: Guidelines and Best Practices

VERSION 1.0

ISSUE DATE: JANUARY 2019

orfa.com



Building Community Since 1947

ONTARIO RECREATION FACILITIES ASSOCIATION INC.

1 Concorde Gate, Suite 102, Toronto, Ontario M3C 3N6, Canada

Tel: 416-426-7062 Fax: 416.426.7385

info@orfa.com www.orfa.com

COPYRIGHT © 2019 ONTARIO RECREATION FACILITIES ASSOCIATION INC.

DISCLAIMER: While the Ontario Recreation Facilities Association Inc. (ORFA) does its best to provide useful general information and guidance on matters of interest to its members, statutes, regulations and the common law continually change and evolve, vary from jurisdiction to jurisdiction, and are subject to differing interpretations and opinions. The information provided by the ORFA is not intended to replace legal or other professional advice or services. The information provided by the ORFA herein is provided “as is” and without any warranty, either express or implied, as to its fitness, quality, accuracy, applicability or timeliness. Before taking any action, consult an appropriate professional and satisfy yourself about the fitness, accuracy, applicability or timeliness of any information or opinions contained herein. The ORFA assumes no liability whatsoever for any errors or omissions associated with the information provided herein and furthermore assumes no liability for any decision or action taken in reliance on the information contained in these materials or for any damages, losses, costs or expenses in any way connected to it.

Introduction

The circulation of pool water will remove floating or suspended particles of dirt from the water but has no effect on the substances which have settled to the bottom of the swimming pool or "stuck" to the walls.



Regulation 565 7. 3 (d) states (3) Every owner and every operator of a public pool or public spa shall ensure that the pool or spa water is maintained free from visible matter that may be hazardous to the health or safety of the bathers. O. Reg. 494/17, s. 5.

The 3Cs of pool care are 1. [circulation](#), 2. [chemistry](#) and, 3. cleaning. With the appropriate equipment and training an operator can commitment a pool can be skimmed, brushed, and vacuumed to create sparkling clean water environment. Why does an operator have to scrub or cleaning the pool if they maintain correct water balance? Think of it this way - when a person showers, they use shampoo and soap, which are cleaning agents. Shampoo and soap are meant to clean the body, not tile, porcelain, or fiberglass. After a while if not maintained a buildup of soap scum will occur. Because the tub and shower walls stay wet much of the time, it's possible mold will start to grow. It's the same for the pool. Chemicals help keep the water clean and to a degree, they also help keep the walls, floor, and surrounding areas of the pool clean also. But chemicals won't keep leaves and bugs out of the water, nor will they keep the walls and floor of the pool clean indefinitely. To keep the pool clean, regular, thorough cleaning is necessary every day.

Automatic (robotic) and manual cleaning of pools have rational as to when and why to use each option. This document will explore the rational behind the selection of both approaches to pool cleaning. While an automatic cleaner is an important tool, it can toss debris and algae back into the water when it tries to vacuum. If used on a regular basis in

a properly balanced pool they will be of great assistance. Operators dealing with a green infestation will have to manually pool vacuum to deal with the issue.



Manual vacuuming requires the following key elements:

- A [vacuum head](#) - also called a vac head
- A [telescopic pole](#) to attach to the vac head
- A [vacuum hose](#) long enough to reach every area of your pool
- A [skim vac](#) or vacuum plate (if needed)
- A [scrub brush](#) to attach to the pole

Outdoor pools that have a large amount of leaves or other debris in the pool (after a thunderstorm) or if they have used [flocculant](#) to clear up water-clouding particles. The storm debris and particle-laden flocculant will sink to the bottom of the pool where they'll sit until vacuumed up. This is one of the tools you'll probably use more often than any other.



A skimmer net is attached to a telescopic pole and allows the operator to collect debris that's accumulated on and below the water's surface. Leaves, bugs, twigs, hair ties etc. can all be scooped up in a skimmer net. There are two options when choosing a skimmer net: a flat skimmer, or a bag skimmer. A flat skimmer is considered easier to shake off the debris that has been collected from the pool. While a bag skimmer may hold more but can be difficult to empty, especially when wet. A heavy-duty skimmer net should be purchased as less expensive ones tend to break. An operator should attach a pool brush to scrub the pool's walls and

floor, removing dirt, and detaching algae before it can take hold and grow.

1. **Unpainted Concrete:** Use a brush with both [stainless steel and nylon](#) bristles.
2. **Gunitite:** Use a brush with [stainless steel bristles](#).
3. **Fiberglass, Vinyl, or Painted Concrete:** Use a brush with [nylon bristles](#) only.



No less than twice a week, brush the walls, ladders, and corners of a pool. Be sure to get into every nook and cranny possible to brush away any algae formations. Brushing will push the algae into the water, making it easier for sanitizer to kill it.

NOTE: if a pool has developed a serious algae problem, brushing alone will not remedy the problem. The operator will need to take more aggressive action to [get rid of pool algae](#).

To clear a large amount of debris from a pool, the operator may want to adjust the filter setting to compensate *before* beginning the vacuuming. Depending on the size and style of the pool, the filter system may have different settings for controlling filtration; including one called "waste." This setting pumps water out of the pool while bypassing the filter. This setting keeps from clogging the filter with debris, flocculant, and dead/dying/annoyingly persistent algae. If the pool operators are performing routine maintenance and giving the pool a weekly cleaning, there may not be a need to adjust the pool's filter setting. The standard "filter" setting will be sufficient. If the pool operator uses this method, the pool water level will drop while vacuuming. The operator may need to connect a hose with an attached [hose filter](#) to add fresh water while vacuuming and keep air out of the skimmer inlet.

1. Ensure the pump and filter are running.
2. Attach the [vacuum head](#) to the open end of the telescopic pole.
3. Attach one end of the hose to the vac head. If the hose is slippery, use a hose clamp to keep it in place.
4. Place the vac head, [telescopic pole](#) and hose in the pool, making sure the vac head rests on the pool floor.
5. Place the other end of the [vacuum hose](#) against a return jet in the pool. This will push water through the hose and drive all the air out.
6. Triple-check to make sure the vacuum inlet is the **only** line open to the pump. If not, particles and debris will also be sucked in by the pump requiring the process to be repeated.

NOTE: If the operator sees bubbles rising from the vacuum head on the floor of the pool - once the bubbles stop, all the air is out of the hose.

1. Attach the [vacuum plate](#) to the end of the hose that was previously placed against the return jet, block the opening with a hand, and bring it over to the skimmer. Be sure to create a good seal or suction will be lost.
2. If *not* using a vacuum plate, remove the basket inside the skimmer, and, using your hand, block the end of the water-filled hose. Then place the hose into the skimmer, making sure it's firmly inserted into the suction hole at the bottom of the skimmer.

NOTE: Whichever method selected will create the suction that pulls material through the vac head, up through the hose into the skimmer, and then through the filter system. If your vacuum loses suction, just follow the prep steps again to restore it.

1. Start at the shallow end and slowly move toward the deep end of the pool. Use long, slow, sweeping strokes to clean. Make sure the strokes overlap slightly to avoid leaving any debris behind.
2. Slow and low is the tempo. Rushing will just kick up debris, which will reduce visibility and take hours to settle down again, requiring another session of vacuuming.
3. If the vac head becomes stuck, switch off the pump for a second to break the vacuum

force and set it free. Also, be sure to monitor the pool filter's pressure gauge while vacuuming. If the pressure rises above the levels recommended by the manufacturer, take a break, and backwash the filter.

4. When finished cleaning the pool, remove the vacuum head from the telescoping pole, and drain any water still in the vacuum hose. Attach the cleaning brush to the pole, and use it to scrub away any algae, dirt, and debris from the sides of the pool.
5. Clear any debris in the pump strainer basket and give the filter a final backwashing.
6. If the "Waste" setting was used to vacuum the pool, make sure to switch the valve back to the filter" setting, and keep adding fresh water to the pool until the water level is restored.
7. Once topped off, [test the pool water](#), and adjust the alkalinity, pH, and chlorine as necessary.
8. Rinse all equipment with fresh water, dry it, and return it to storage. This will help keep it in top working condition and avoid unnecessary wear and corrosion.

No matter how much an operator skim's, brushes, or vacuums, if the pool filter is dirty, the pool water will be dirty. The method the operator uses to clean the pool filter will depend on whether it's a [D.E filter](#), a [cartridge filter](#), or a [sand filter](#).



Robotic Pool Cleaners

A robotic pool cleaner—also called an [automatic pool cleaner](#)—are small, electrically driven self-contained unit that essentially drives around the pool sucking up debris. The operator plugs the unit in, and places it in the water to go about vacuuming the pool. The operator must regularly empty the filter bag as required.

Pressure Side Pool Cleaners

These cleaners hook up to the return line and use the water pressure from the filter system to power a self-contained automatic cleaner around the bottom of the pool to pick up debris.

Section Side Pool Cleaners

This is just an automatic version of vacuuming a pool manually. The operator hooks up the same way as when they manually vacuum the pool. Once installed, they move around the bottom of the pool independently.

Robotic Pool Cleaner Challenges

Pool designed as walk in facilities will need to create a barrier to ensure the unit does not leave the bowl area.



Safely Cleaning a Pool Deck

Keeping a pool deck clean is more than removing visible debris - sometimes the operator will need to disinfect it. Pool sanitizers used keep the water clean will dissipate over time, which is why the operator needs to add them on a regular basis. Once the water is out of the pool and onto the deck, the sanitizing chemicals will not only dissipate, but evaporate, meaning the deck can become a breeding ground for bacteria and algae. These kinds of growths can become slippery, making the area dangerous.

For cleaning and disinfecting a deck area, a pool operator has different options. A liquid concentrate pool deck cleaner or trisodium phosphate which is a water-soluble powder can be used. Whatever cleaning solution is selected be sure to follow the manufacturer's instructions as how much is to be used and how it is to be applied will depend on the material the deck is made of. Once the solution is mixed, the operator can usually just scrub a smaller

deck with a long-handled, stiff-bristled brush. To make pool deck cleaning easy a [pressure washer](#) or a [high-pressure nozzle](#) attached to a hose can be used.

IMPORTANT: Keep all deck cleaning chemicals from entering the bowl as they will disrupt the water chemical balance.



Cleaning Pool Tile and Grout

Examine the pool tile and clean surface dirt and other debris from the coping and grout before attempting any other cleaning. A tile wipe or detergent can help to address some issues. If the dirt is widespread or set into the tile, use a chemical acid wash to remove it from the tile. Be careful when selecting and applying the acid wash, as the chemicals may damage certain surfaces or skin. Mix a 20-percent bleach solution in a spray bottle. Clean particularly problematic spots with the bleach solution and a toothbrush or rag. Use a water-based power washing system to help eliminate stains from tile pool coping. Ensure that the tile isn't cracked or broken before using a power washer as the pressure may break or increase existing damage.

Pool Corrosion

Pool water balance is also important to equipment upkeep and life-cycle. A pool operator understands that the facility is an interconnected system of heaters, filters, pumps, drains and that running a pool day after day places a great amount of strain on the devices requiring every pool operator to understand how corrosion can affect the facilities. Consider all the contaminants and reactive chemicals that the dozen machines connected to the pool are exposed to every day. There's the acidic cleaning agents followed by several straight hours of swimmers inadvertently depositing contaminants

into the water. Corrosive conditions can be eliminated or controlled by the adjustment of the pH, total alkalinity and calcium hardness. Pool managers who want to protect their facility's equipment can avoid the dangers of corrosion through regular maintenance. While there's no sure-fire way to protect a pool heater and filter from harmful chemicals, cleaning these units regularly will reduce corrosive buildup and lengthen operational lifetimes. While not a 100% protection - coating pool steel structures in corrosion-resistant layers can help reduce structural degradation. If this protection is not available a comprehensive manual cleaning plan of all deck equipment must be implemented.



Dealing With Pool Rust and Stains

Problems, with stains and discoloration, is usually due to the presence of metals. Anything that falls into the pool (bobby pins, toys, debris, etc.) can contribute to pool rust stains. Small rust stains may also be introduced into the pool from inexpensive chemicals containing small metal fragments. An operator should be testing for iron and copper, to better understand the extent and cause of the problem. This helps select the best treatment option. Iron makes its presence known as a rusty, or amber-brownish stains or even as a green - amber - rusty-brown coloured pool water. In some regions, iron is a common pool water problem and is especially true, if the water is sourced from a well. The discoloring pool problems are related to the dissolved heavy metals, that are oxidized, as chlorine or shock is added. Iron can be treated with mineral treatment products (chelating agents). It is important to add an excess amount of product, in order to make sure that enough has been added to treat all of the iron and other problematic minerals. that might be present. Stain avoidance treatment should be used, whenever a water analysis indicates even a

trace amount is present. Choose a product which is phosphate-free and works over a very wide pH range. There is no sense in trading an iron problem, for a phosphate problem. An alternative method of dealing with known iron and heavy metal problems is to use a metal filter, which can physically remove both ion-containing precipitates, as well as dissolved iron and other heavy metals.

- **Green or Brown Stains** - Are usually organic, in nature, and are due to algae and/or tannins, leaching from many common varieties of tree leaves. This is more likely to happen, if the sanitizer (oxidizer) levels are low and/or if there is poor circulation, across the pool floor. Consider super-chlorination and [improving circulation](#).
- **Dark Blue, Green or Black Colours** - Are likely caused by copper. High calcium hardness levels tend to cause the stains to darker, in appearance. The source could be corrosion of the copper heat exchanger, natural sources, over use of copper algaecides, ionizer or mineralizers. This type of problem requires proper chemical treatment.
- **Green, Brown, Tea-Colored or Rusty-Red Colours** - Are usually indicative of an iron problem. The most likely source is the (well) water being used to fill the pool.
- **Brown, Black or Purple Colours** - Are usually an indication of manganese being present. This most often occurs, when well water is used. A test of the source water should confirm the presence of manganese.
- **Red or Blue Stains** - Can be associated, with the presence of berries or vegetation. This is more likely to happen, if the sanitizer (oxidizer) levels are low and/or if there is poor circulation, across the pool floor. Super-chlorination and [improving circulation](#), are the best course of action.

protection to be in place. This may include the use of PFD as well as a communication system. Workers must be aware of the slip risks of wet decks as well as the related health issues associated with cleaning chemical or pool algae or rust problems. A Standard Operating Procedures (SOP) should be developed and used by all who have pool cleaning responsibilities.

Pool Cleaning Risks and Hazards

Pool operators must be aware of the risks and hazards associated with pool cleaning. Working alone, on deck cleaning a pool requires worker